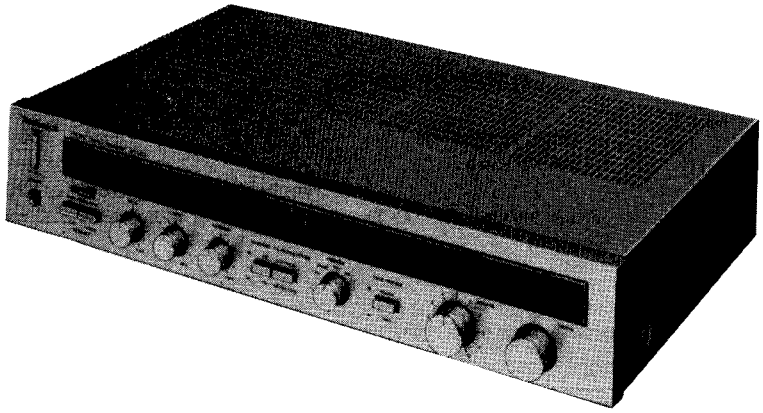
ORDER NO. SD82082280C2

Service Manual

FM/AM Stereo Receiver

SA-203
[EGA]

SA-203(K)
[EGA]



* The cabinet and front panel are available in black color and silver types.
* The black type model is provided with (K) in the Service Manual.

Area

* [EGA] is available in F.R. Germany.

TECHNISCHE DATEN (Spezifikationen Können infolge von Verbesserungen ohne Ankündigung geändert werden.)

(DIN 45 500)

■ VERSTÄRKERTEIL

Dauerton-Ausgangsleistung bei 20 Hz ~ 20 kHz	
beide Kanäle ausgesteuert	2 × 30W (4 Ω)
	2 × 30W (8 Ω)
Dauerton-Ausgangsleistung bei 40 Hz ~ 16 kHz	
beide Kanäle ausgesteuert	2 × 30W (4 Ω)
	2 × 30W (8 Ω)
Dauerton-Ausgangsleistung bei 1 kHz	
beide Kanäle ausgesteuert	2 × 35W (4 Ω)
	2 × 33W (8 Ω)
Gesamtklirrfaktor	
Nennleistung bei 20 Hz ~ 20 kHz	0,08% (4 Ω)
	0,04% (8 Ω)
Nennleistung bei 40 Hz ~ 16 kHz	0,08% (4 Ω)
	0,04% (8 Ω)
Nennleistung bei 1 kHz	0,04% (4 Ω)
	0,04% (8 Ω)
halbe Nennleistung bei 20 Hz ~ 20 kHz	0,025% (8 Ω)
halbe Nennleistung bei 1 kHz	0,009% (8 Ω)
−26 dB Leistung bei 1 kHz	0,1% (4 Ω)
50 mW Leistung bei 1 kHz	0,12% (4 Ω)
Intermodulationsfaktor	
Nennleistung bei 250 Hz: 8 kHz = 4:1, 4 Ω	0,08%
Nennleistung bei 60 Hz: 7 kHz = 4:1, nach SMPTE, 8 Ω	0,04%
Leistungsbandbreite	
beide Kanäle ausgesteuert bei −3 dB	10 Hz ~ 30 kHz (4 Ω)
Dämpfungsfaktor	15 (4 Ω), 30 (8 Ω)
Eingangsempfindlichkeit und -impedanz	
Phono	2,5 mV/47 kΩ
Aux	150 mV/22 kΩ
Tape	180 mV/22 kΩ
Maximale TA-Eingangsspannung (1 kHz, eff.)	130 mV
Klangregler	
Baßregler (BASS)	50 Hz, +10 dB ~ −10 dB
Höhenregler (TREBLE)	20 kHz, +10 dB ~ −10 dB
Geräuschabstand	
Nennleistung (4 Ω)	
Phono	70 dB (nach IHF, A: 78 dB)
Aux, Tape	88 dB (nach IHF, A: 95 dB)
−26 dB Leistung (4 Ω)	
Phono	64 dB
Aux, Tape	66 dB
50 mW Leistung (4 Ω)	
Phono	62 dB
Aux, Tape	62 dB
Frequenzgang	
Phono	RIAA-Standardkurve
	±0,8 dB (30 Hz ~ 15 kHz)
Aux, Tape	5 Hz ~ 70 kHz(−3 dB)
	±0,2 dB (20 Hz ~ 20 kHz)
Gehörrichtige Lautstärkekorrektur (Loudness)	
(bei −30 dB Ausgangsleistung)	50 Hz, +9 dB
Ausgangsspannung und -impedanz	
Tape Aufnahme (TAPE REC OUT)	150 mV
Kanalabweichung (Aux, 250 Hz ~ 6300 Hz)	±1 dB
Übersprechdämpfung (Aux, 1 kHz)	55 dB
Kopfhörerpegel und -impedanz	260 mV/330 Ω
Lautsprecherimpedanz	
MAIN oder REMOTE	4 Ω ~ 16 Ω
MAIN und REMOTE	8 Ω ~ 16 Ω

■ UKW-TUNERTEIL

Wellenbereich	87,5 ~ 108 MHz
Eingangsempfindlichkeit	
S/R 30 dB	1,3 μV (75 Ω)
S/R 26 dB	1,2 μV (75 Ω)
S/R 20 dB	0,9 μV (75 Ω)
Nutzempfindlichkeit nach IHF	1,5 μV (nach IHF '58)
Gesamtklirrfaktor	
Mono	0,15%
Stereo	0,2%

Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

Geräuschabstand	
Mono	60 dB (75 dB nach IHF)
Stereo	58 dB (70 dB nach IHF)
Frequenzgang	20 Hz ~ 15 kHz (+1 dB ~ −2 dB)
Trennschärfe bei Störsender	75 dB
Einfangverhältnis	1,2 dB
Spiegelfrequenz-Dämpfung bei 98 MHz	55 dB
ZF-Dämpfung bei 98 MHz	75 dB
Ansprechdämpfung auf Nebenfrequenzen bei 98 MHz	80 dB
MW-Unterdrückung	50 dB
Übersprechdämpfung **1 kHz**	40 dB
10 kHz	30 dB
Trägerrest **19 kHz**	−30 dB (−35 dB nach IHF)
38 kHz	−50 dB (−50 dB nach IHF)
Kanalabweichung (250 Hz ~ 6300 Hz)	±1,5 dB
Begrenzereinsatz	1,2 μV
Bandbreite	
ZF-Verstärker	180 kHz
UKW-Demodulator	1000 kHz
Antennenanschluß	75 Ω (unsymmetrisch)

■ MW-TUNERTEIL

Wellenbereiche	525 ~ 1605 kHz
Eingangsempfindlichkeit (S/R 20 dB)	30 μV, 300 μV/m
Trennschärfe	30 dB
Spiegelfrequenz-Dämpfung bei 1000 kHz	50 dB
ZF-Dämpfung bei 1000 kHz	40 dB

■ ALLGEMEINE DATEN

Leistungsaufnahme	300 W
Netzspannung	Wechselstrom 50 Hz/60 Hz, 220V
Abmessungen (B×H×T)	430 × 86 × 320 mm
Gewicht	6,6 kg

■ CONTENTS

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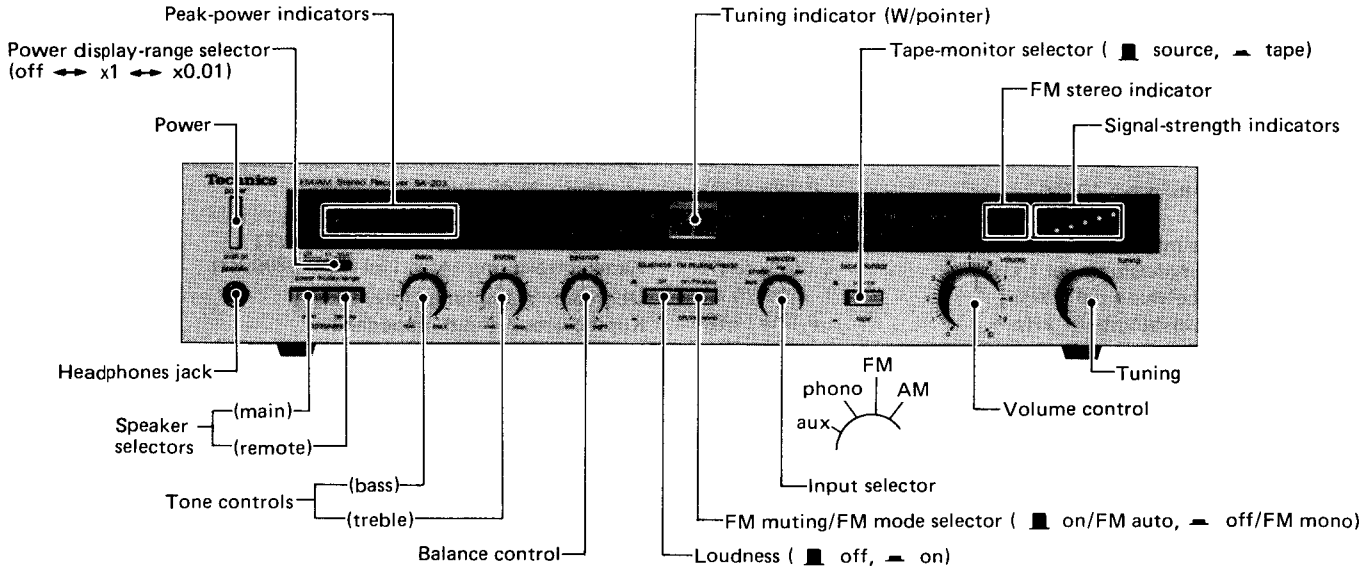
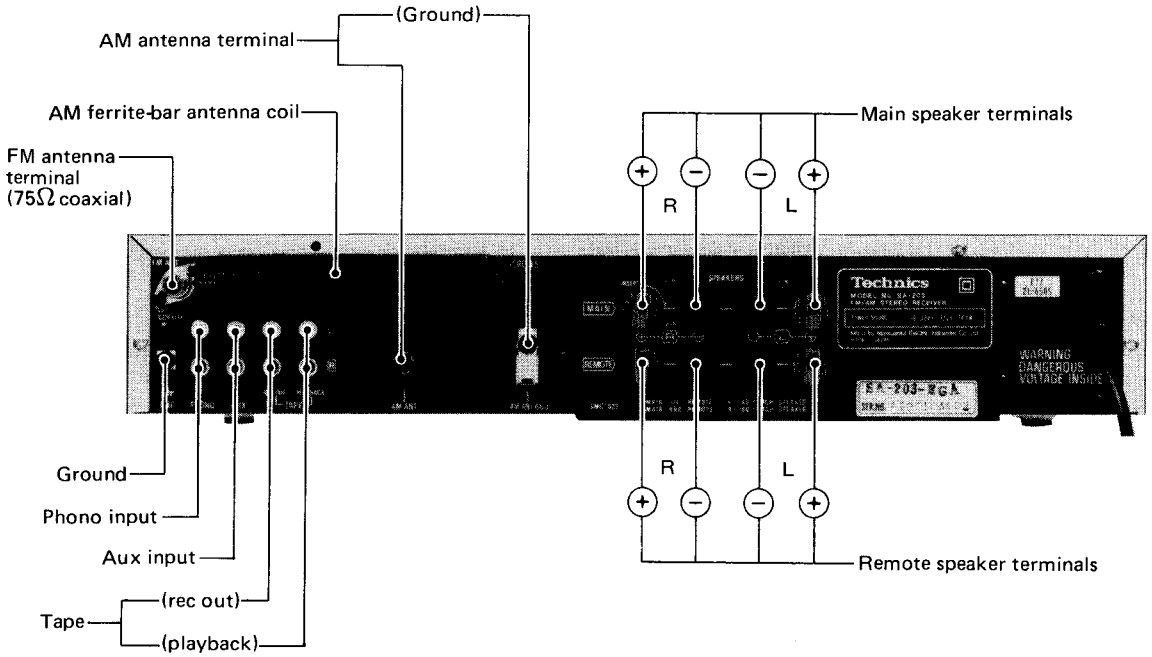
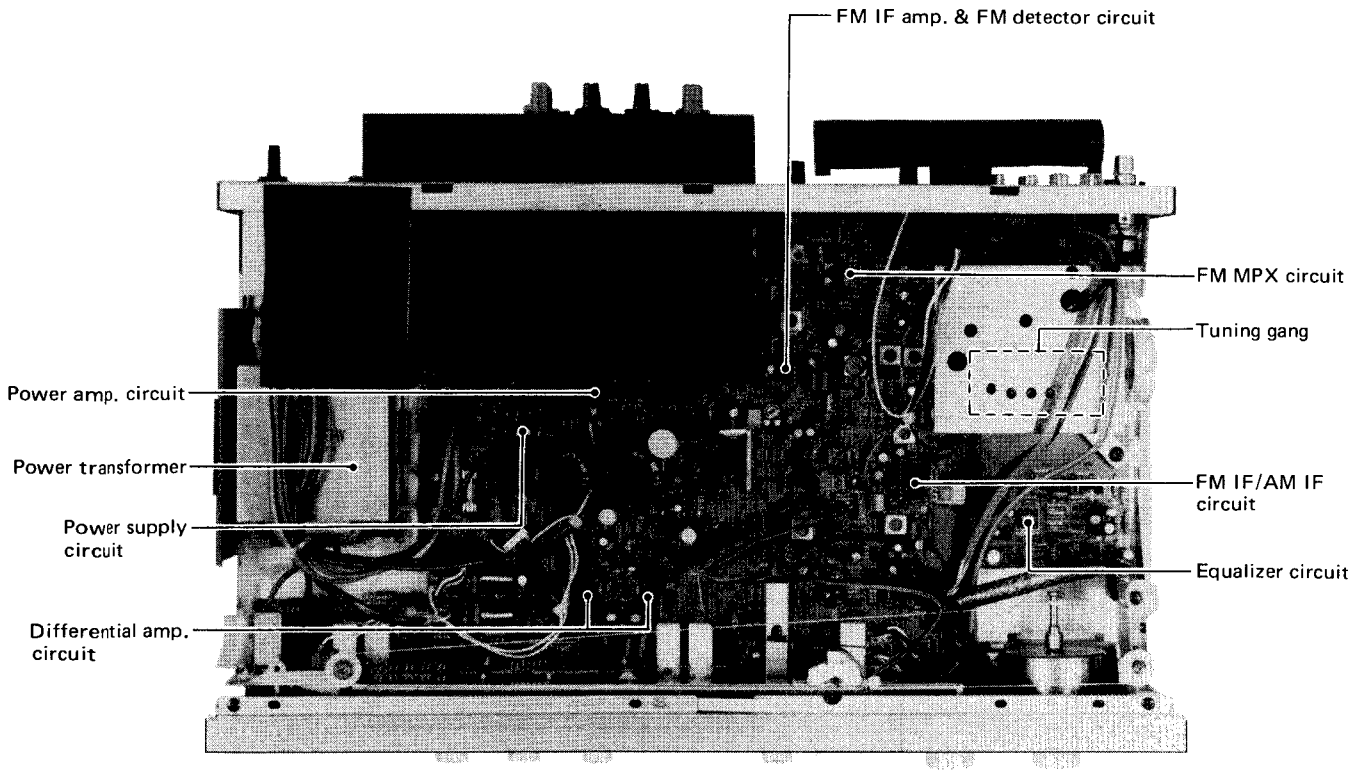
■ LOCATION OF CONTROLS





* Phono input capacitance is about 150pF.



■ TECHNICAL GUIDE

The power amplifier IC (SVISTK2028) is provided with a protection circuit.

1. Muting (shock noise prevention) with power switch ON.

(1) When power is supplied, negative voltage is applied to the emitter of switching transistor (Q703).

(2) Positive voltage flows from the regulator (Q707) to R709 and R708 to turn D705 and Q703 ON. (It takes a few seconds until Q703 turns ON due to time constant of C706).

(3) When Q703 turns ON, negative voltage is applied to the pin ⑤ of input amplifier IC (AN7060) causing the input amplifier to operate.

* The signal is applied to the power amplifier a few seconds later so that shock noise can be prevented.

2. Muting (shock noise prevention) with power switch OFF.

(1) When power supply is cut off, the voltage applied to Q703 drops at the base faster than the negative voltage at the emitter connected to the large capacity condenser, thus turning off D705 and Q703.

(2) Input amplifier is off with Q703 off.

* The signal is cut off on the input side while the operation voltage of power amplifier still remains, thus preventing shock noise.

3. Operation of the protection circuit with speaker terminal short-circuited.

(1) Transistor Q7 in the power amplifier IC (SVISTK2028) is usually OFF, but when the speaker terminal is short-circuited to the ground, a large amount of current flows to Q6, causing a voltage to be generated at R5.

(2) The voltage causes Q7 to turn ON, then (I1) flows to raise the base potential of Q702. And Q702 turns ON.

(3) As Q702 is ON, (I2) flows to generate a voltage at R707, and then Q701 turns ON.

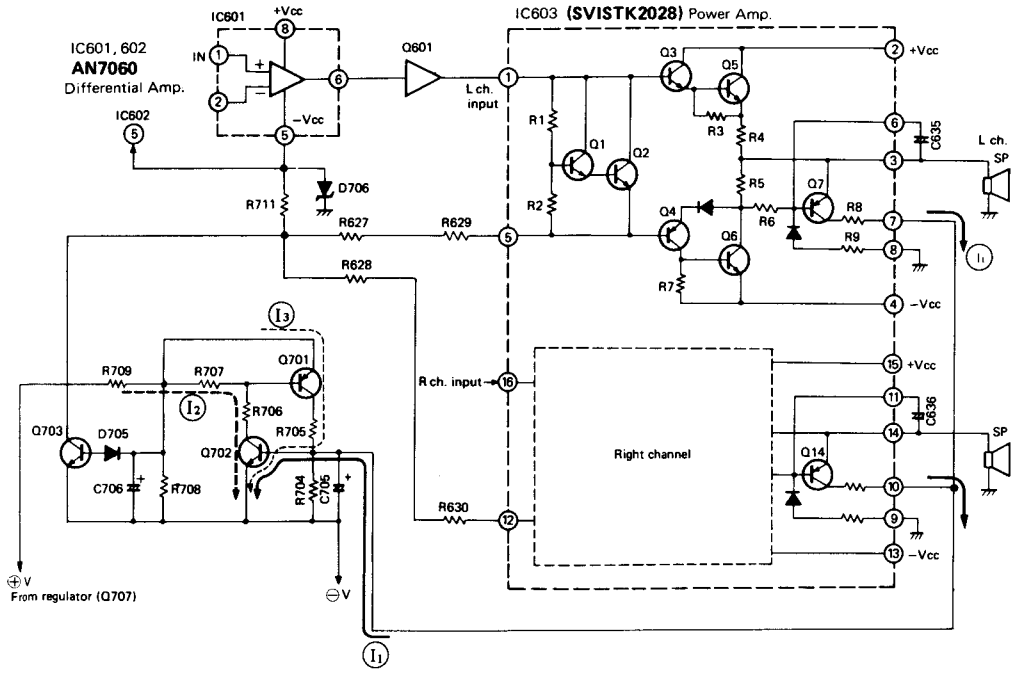
(4) (I3) flows with Q701 turned ON, (I3) flows to hold Q702 ON.

(5) The current flowing in R709 increases due to (I2), and the positive voltage from regulator (Q707) drops, causing D705 to turn off.

(6) In other words, Q703 turns OFF and the negative power supply to the input amplifier is discontinued.

* This condition continues until power supply switch is set OFF.

A few minutes after the power switch is set to ON, if no sound is produced while the operation is normal, cut off the power supply and check the speaker connections and the input equipment.



■ DISASSEMBLY INSTRUCTIONS

• How to remove the cabinet

1. Remove the 5 setscrews (Fig. 1: ❶ ~ ❺) of the cabinet.
2. Remove the cabinet.

• How to remove the front panel

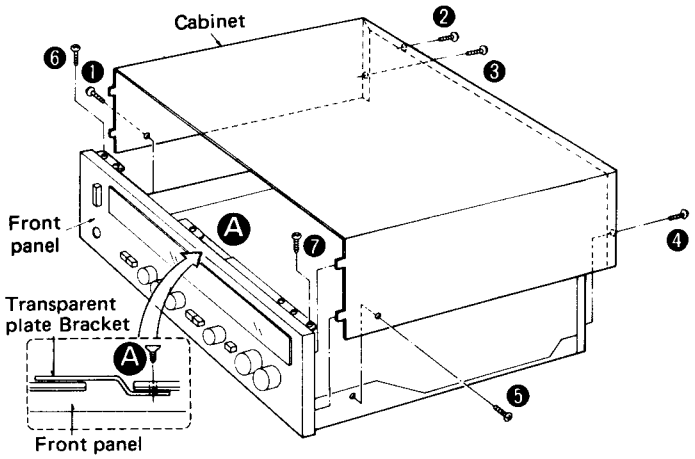
1. Remove the cabinet. (Refer to the section **"How to remove the cabinet."**)
2. Remove the 4 setscrews (Fig. 1: ❻, ❼ and Fig. 2: ❽, ❾) of the front panel.
3. Remove the 1 setscrew (Fig. 1: Ⓐ) of the transparent plate bracket, then remove the front panel.

• How to remove the dial scale

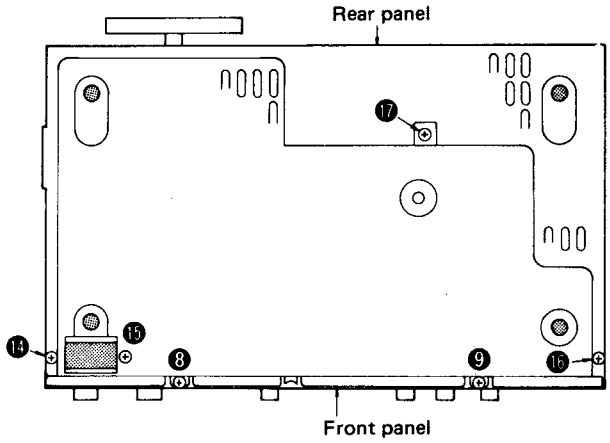
1. Remove the cabinet. (Refer to the section **"How to remove the cabinet."**)
2. Remove the front panel. (Refer to the section **"How to remove the front panel."**)
3. Pull up the two claws at the bottom of the transparent plate in the direction of the arrow Ⓑ (Fig. 3).
4. Remove the dial indicator lamp and the 2 dial scale holder of the front chassis. (see Fig. 4)
5. Remove the dial scale.

• How to remove the peak-power indicators printed circuit board

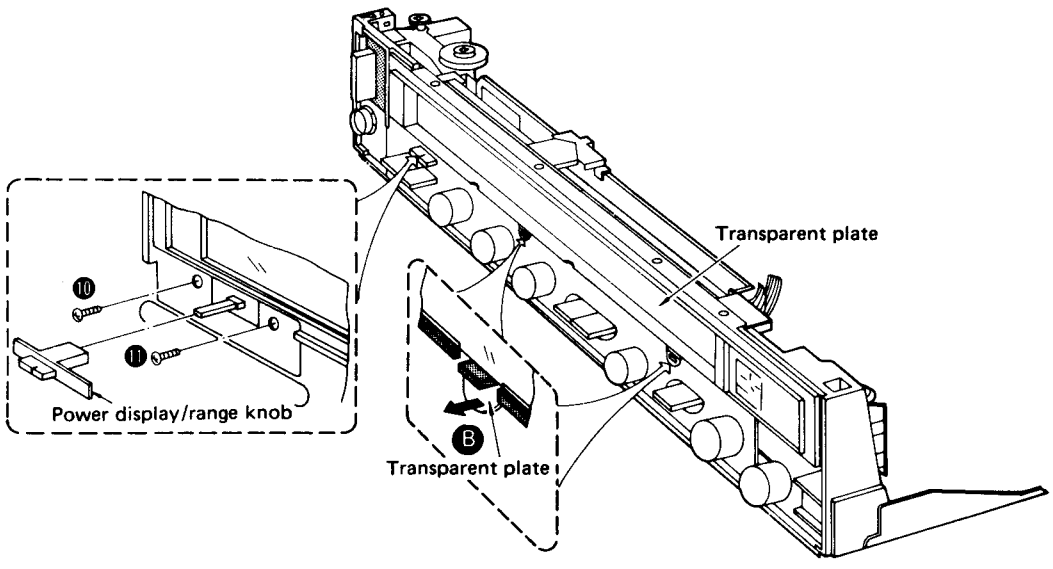
1. Remove the cabinet. (Refer to the section **"How to remove the cabinet."**)
2. Remove the front panel. (Refer to the section **"How to remove the front panel."**)
3. Remove the power display/range knob (Fig. 3).
4. Remove the 2 setscrews (Fig. 3: ❿, ⓫) of the front chassis.
5. Remove the 2 lugs (Fig. 4: ⓬, ⓭) to detach the peak-power indicators printed circuit board.



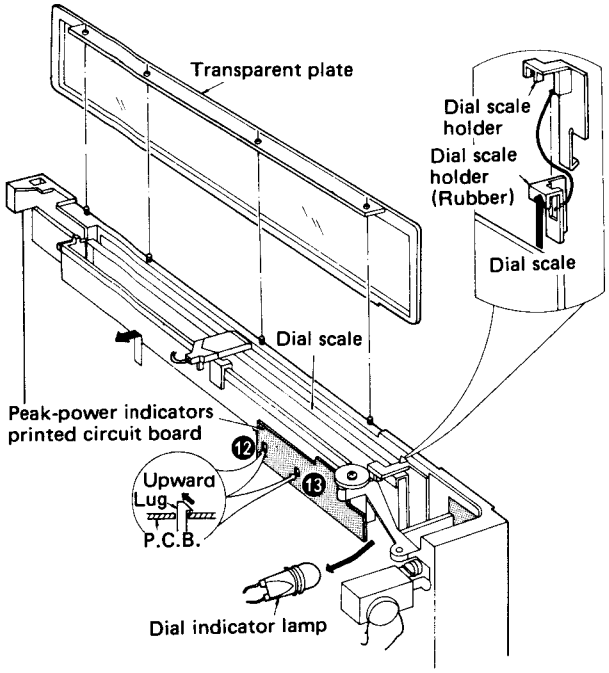
[Fig. 1]



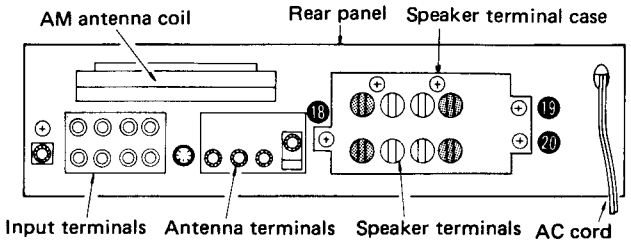
[Fig. 2]



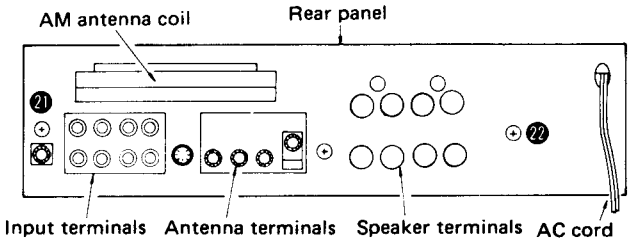
[Fig. 3]



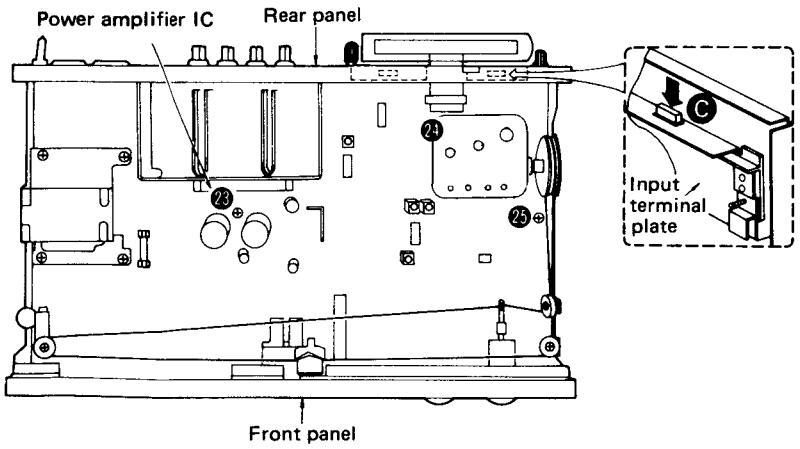
[Fig. 4]



[Fig. 5]



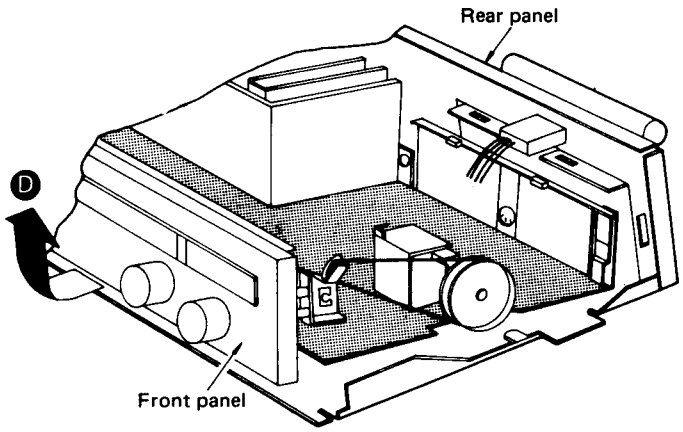
[Fig. 6]



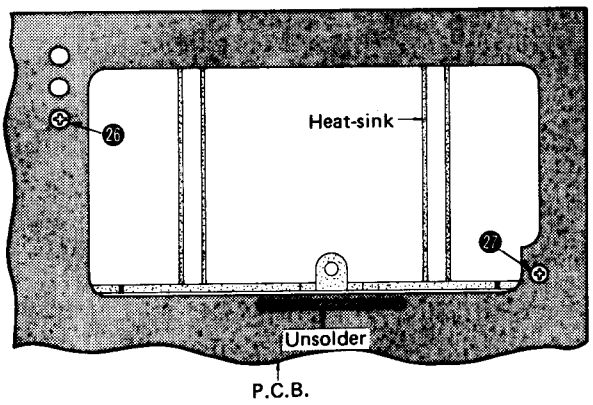
[Fig. 7]

• How to remove the power amplifier IC

1. Remove the cabinet. (Refer to the section **"How to remove the cabinet."**)
2. Remove the 6 setscrews (Fig. 2: ❽, ❾ and ❹ ~ ❼) and 3 setscrews (Fig. 5: ⑱ ~ ⑳) of the speaker terminal case.
3. Remove the speaker terminal case.
4. Remove the 2 setscrews (Fig. 6: ㉑ , ㉒) of the heat-sink.
5. Remove the 3 setscrews (Fig. 7: ㉓ ~ ㉕).
6. Pressing the claws of the input terminal plate and antenna terminal plate in the direction of arrow Ⓒ (Fig. 7), lift up the front panel in the direction of arrow Ⓓ (Fig. 8). Then, the front panel can be removed from the rear panel.
7. Remove the 2 setscrews (Fig. 9: ㉖ , ㉗) of the heat-sink.
8. Unsolder the power amplifier IC. (Fig. 9).
9. Remove the 2 setscrews (Fig. 10: ㉘ , ㉙) used to secure the power amplifier IC on the heat-sink, and then pull the power amplifier IC.
10. When mounting the power amplifier IC, apply silicone compound (or equivalent heat diffuser) to the back of power amplifier IC.

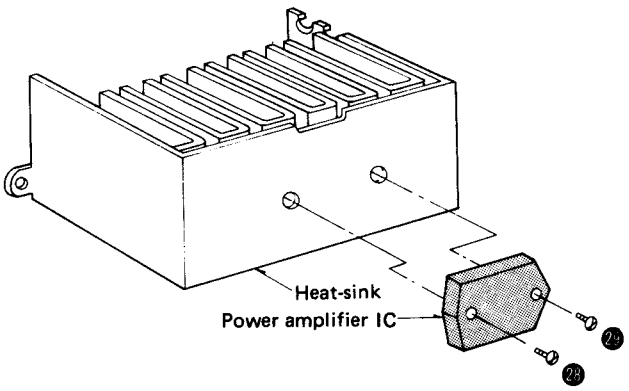


[Fig. 8]



Bottom view

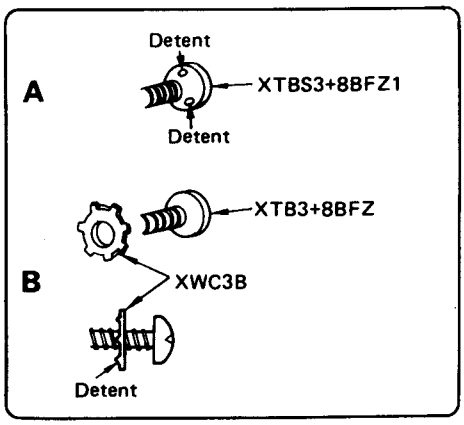
[Fig. 9]



[Fig. 10]

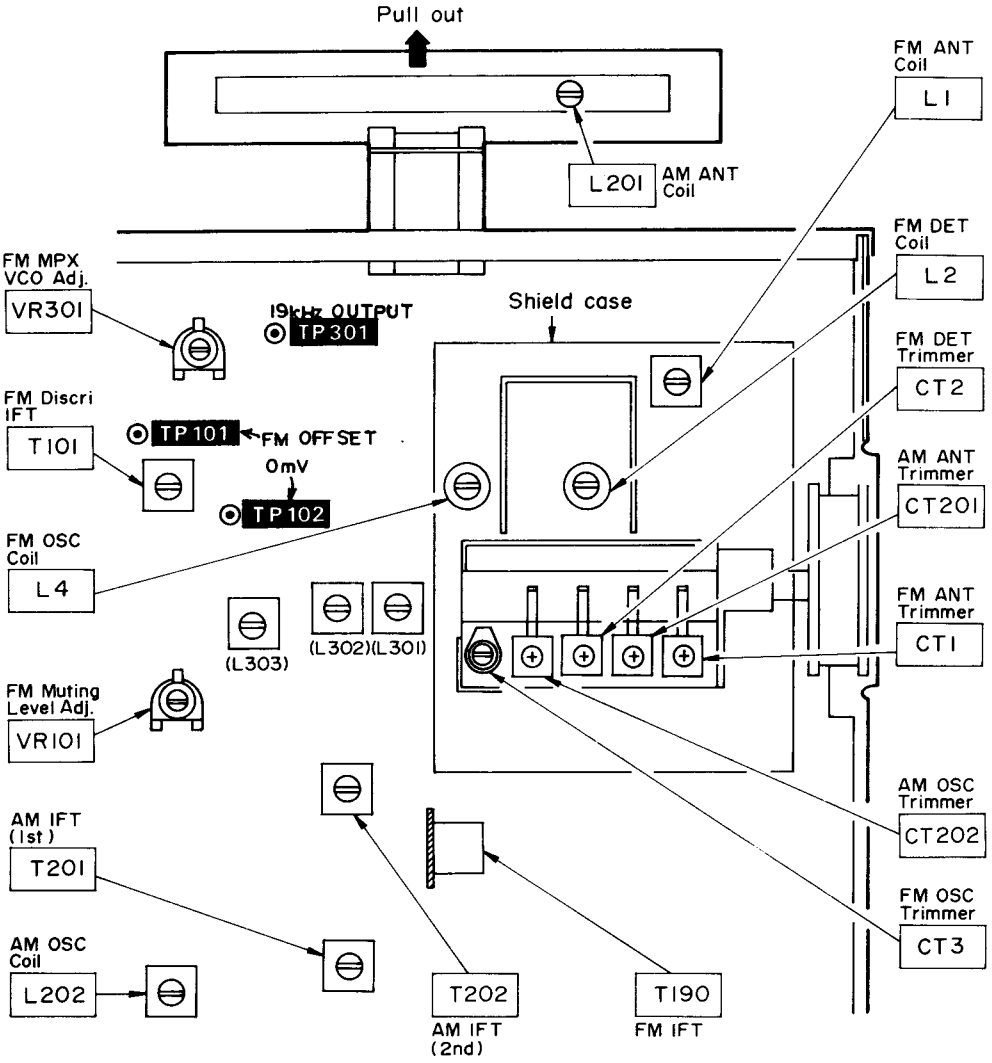
Note 1: When checking or repairing, remove the speaker from the speaker terminal. If it is necessary to check or repair without removing the speaker from the terminal, short-circuit the phono input terminal beforehand.

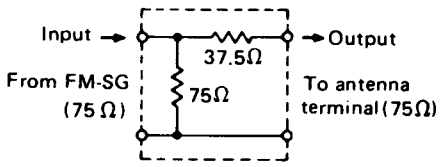
Note 2: Setscrew ㉑ (Fig. 6) is screw with detents (Part No.: XTBS3+8BFZ) as shown in Fig. 11-A in order to make the contact of electric circuit perfect.
Take care not to mix up these screws with other screws. When substituting, use a 3 x 8mm tapping screw (Part No.: XTB3+8BFZ) and toothed lock washer (Part No.: XWC3B) as shown in Fig. 11-B. The teeth of the lock washer should be positioned on the chassis side.



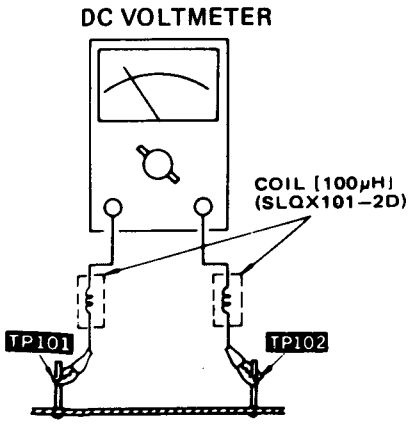
[Fig. 11]

■ MESSUNGEN UND JUSTIERUNGEN

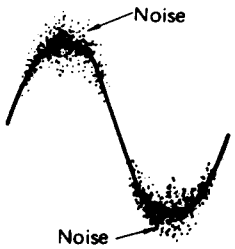




[Fig. 12]
(Abb. 12)

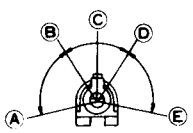


[Fig. 13]
(Abb. 13)



AF output wave form

[Fig. 14]
(Abb. 14)



VR301

A – B, D – E: Stereo OFF Position.
B – D: Stereo ON Position (indicator lighting).
C: Adjust Point of Pilot Circuit.

[Fig. 15]
(Abb. 15)

• Stellungen und zu benutzende Geräte

1. Elektronische Voltmeter für Wechsel-und Gleichstrom (VTVM)
2. AM (MW)-Meßsender (AM-SG)
3. Netzspannung auf ihren Sollwerthalten.
4. Der Ausgang des Meßsenders darf nicht höher sein als unbedingt notwendig für eine gute Ablesung.
5. Die AM-Ferritstabantenne (L201) herausziehen.
6. Bereichsschalter . . . . . { AM (AM abgleich) / FM (FM abgleich)
7. Einen nichtmetallischen Schraubenzieher für die Einstellungen verwenden.
8. Wellenbereichsschalter . . . . . main

Nr.	FM/AM (MW)-MESSENDER ANSCHLUSS	FM/AM (MW)-MESSENDER FREQUENZ	ANZEIGE-FREQUENZ DURCH VOR-EINSTELLUNG	VORBEREITUNG	ABGLEICHSPUNKTE	ABGLEICHSVERFAHREN
	AM (MW)-ZF-ABGLEICH					
1	Einen MW-Signal generator über einen 200pF Kondensator mit dem MW-Antennen-eingang verbinden. Die gemeinsame Leitung mit dem Chassis verbinden. (Starker Eingang)	450kHz (400Hz Modulat., 30%)	Kein Empfang	Oszilloskop oder Wechselstrom-Voltmeter über den Lautsprecher schließen.	T201 (1. IFT) T202 (2. IFT)	Die Eingangsfrequenz und die Einstellungspunkte so adustieren, daß der Ausgang den maximalen Wert erreicht.
	AM (MW)-HF-ABGLEICH					
2	Einen MW-Signal-generator über einen 200pF Kondensator mit dem MW-Antennen-eingang verbinden. Die gemeinsame Leitung mit dem Chassis verbinden. (Schwacher Eingang)	600kHz (400Hz Modulat., 30%)	600kHz	Oszilloskop oder Wechselstrom-Voltmeter über den Lautsprecher schließen.	L201 (MW Ant. Spule) L202 (MW Osc. Spule)	1. Auf max. Ausgang abgleichen. 2. Den Ferritkern von L201 mit einem Schraubendreher justieren.
3		1500kHz (400Hz Modulat., 30%)	1500kHz	Oszilloskop oder Wechselstrom-Voltmeter über den Lautsprecher schließen.	CT201 (MW Ant. Trimmer) CT202 (MW Osc. Trimmer)	1. Auf max. Ausgang abgleichen. 2. Die schritte (2) und (3) wiederholen.

• Verwendete Einrichtungen

1. UKW-Meßsender (FM-SG)
2. Stereo-Modulator (oder Trennmesser)
3. Verzerrungsmesser
4. Oszilloskop
5. Elektronische Voltmeter für Wechsel- und Gleichstrom (VTVM)
6. Signalfrequenzmesser (meßber für 19kHz und 108MHz)
7. UKW 75-Ohm Kunstantenne (Abb. 12)

• Vorbereitung AM UKW-Messender (FM-SG)

1. Stereo-Modulator an FM-SG anschließen.
2. SG-Ausgang über 75-Ohm UKW Kunstantenne an den Antenneneingang des Gerätes schließen.
3. Der normale Eingang des Gerätes beträt 60dB (1mV), 400Hz 100% Modulation. (Wegen Verwendung der Kunstantenne muß der Signalausgang 12dB plus (IHF) sein: d.h. beim Eingang von 60dB soll der Signalausgang 72dB sein.)

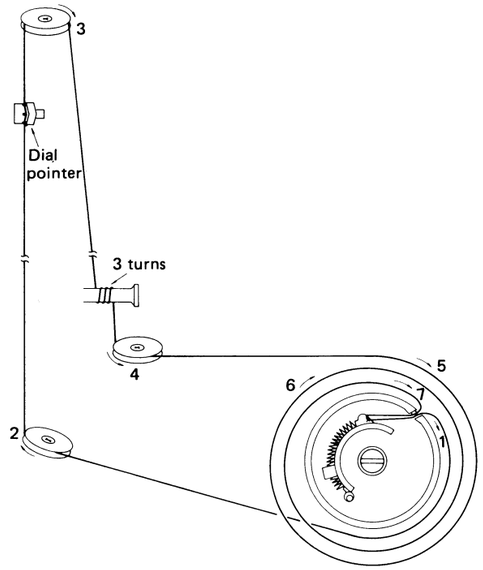
Nr.	FM/AM (MW)-MESSENDER ANSCHLUSS	FM/AM (MW)-MESSENDER FREQUENZ	ANZEIGE-FREQUENZ DURCH VOR-EINSTELLUNG	VORBEREITUNG	ABGLEICHSPUNKTE	ABGLEICHSVERFAHREN
	UKW-ZF-ABGLEICH					
4		Kein Signal	100.0MHz	Ein Gleichstromröhren-voltmeter zwischen TP101 und TP102 über eine Drosselspule verbinden (Siehe Abb. 13)	T101 (Diskriminator FT)	Den Kern von T101 so justieren, daß die gemessene Spannung im signallosen Modus 0V im 300mV Bereich beträgt.
	UKW-EMPFINDLICHKEITS-ABGLEICH					
5	Meßsender über eine Kunstantenna an den UKW-Antenneneingang schließen.	87.35MHz (400Hz Modulat., 100%)	87.35MHz (Anzeige-Frequenz min.)	Oszilloskop über den Lautsprecher schließen.	L4 (Osc. Spule)	1. Einen schwachen Eingang geben, bei dem Geräusch in der Ausgangswellenform enthalten wird. 2. So einstellen, daß die Ausgangswellenform vertical symmetrisch wird. (Abb. 14) 3. Die Einstellung von (5) und (6) wider holen, bis die Frequenz mit der Skala übereinstimmt.
6		108.25MHz (400Hz Modulat., 100%)	108.25MHz (Anzeige-Frequenz max.)		CT3 (Osc. Trimmer)	
	UKW-FREQUENZ-ABGLEICH					
7	Meßsender über eine Kunstantenna an den UKW-Antenneneingang schließen.	90MHz (400Hz Modulat., 100%)	90MHz	Oszilloskop über den Lautsprecher schließen.	L2 (HF Det. Spule) L1 (Ant. Spule)	1. Einen schwachen Eingang geben, bei dem Geräusch in der Ausgangswellenform enthalten wird. 2. So einstellen, daß die Ausgangswellenform vertical symmetrisch wird. (Abb. 14) 3. Die Einstellung von (7) und (8) wieder holen, bis die Frequenz mit der Skala übereinstimmt.
8		106MHz (400Hz Modulat., 100%)	106MHz		CT2 (HF Det. Trimmer) CT1 (Ant. Trimmer)	
9	Meßsender über eine Kunstantenne an den UKW-Antenneneingang schließen.	90MHz (400Hz Modulat., 100%)	90MHz	Oszilloskop über den Lautsprecher schließen.	T190 (FM FT)	1. Auf max. Ausgang abgleichen.

Nr.	FM/AM (MW)-MESSENDER ANSCHLUSS	FM/AM (MW)-MESSENDER FREQUENZ	ANZEIGE-FREQUENZ DURCH VOR-EINSTELLUNG	VORBEREITUNG	ABGLEICHSPUNKTE	ABGLEICHSVERFAHREN
	ABGLEICH AUF MIN. VERZERRUNG IN STELLUNG UKW-MONO					
10	Meßsender über eine Kunstantenne an den UKW-Antennen-eingang schließen. (60dB in den Antenneneingang leiten.)	100MHz (400Hz Modulat., 100%)	100MHz	Ein Gleichstromröhren-voltmeter zwischen TP101 und TP102 über eine Drosselspule verbinden. (Siehe Abb. 13)	T101 (Diskriminator FT)	1. Den Kern von T101 so justieren, daß die gemessene Spannung im signallosen Modus 0mV im 300mV Bereich beträgt.
11				Klirrfaktor-Meßbrücke an Ausgangsklemme (OUTPUT) schließen.	T101 (Diskriminator FT)	1. T101 Kern für minimale Verzerrung der rechten und linken Kanäle justieren.
	UKW-STEREO-DEKODER-ABGLEICH					
	UNTER VERWENDUNG EINES ZÄHLERS			ALTERNATIV-MEß METHODE		
12	1. Unmoduliertes Mono-Signal 100MHz in das Gerät speisen. 2. FM muting/mode-Schalter auf "on/auto" stellen. 3. Zähler über einen Widerstand 100K ohm an TP301 schließen. 4. **VR301** auf 19kHz±30Hz einstellen.			1. Stereosignal entweder von einem Stereogenerator. oder einem Sender einspeisen. 2. **VR301** so einstellen, bis die Stereolampe auf leuchtet. Schleifer von **VR301** sichern, wie in Abb. 15 gezeigt.		
	UKW-STUMMABSTIMMUNGS PEGELANZEIGER					
13	Meßsender über eine Kunstantenne an den UKW-Antenneneingang schließen. (16dB in den Antennen-eingang leiten.)	100MHz (400Hz Modulat., 100%)	100MHz	Oszilloskop oder Wechselstrom-Voltmeter über den Lautsprecher schließen.	VR101 (UKW-Muting)	1. "Muting" Schalter auf "on" stellen. VR101 so einstellen, daß der Ausgang unter Bewirken der Dämpfung gegeben wird.

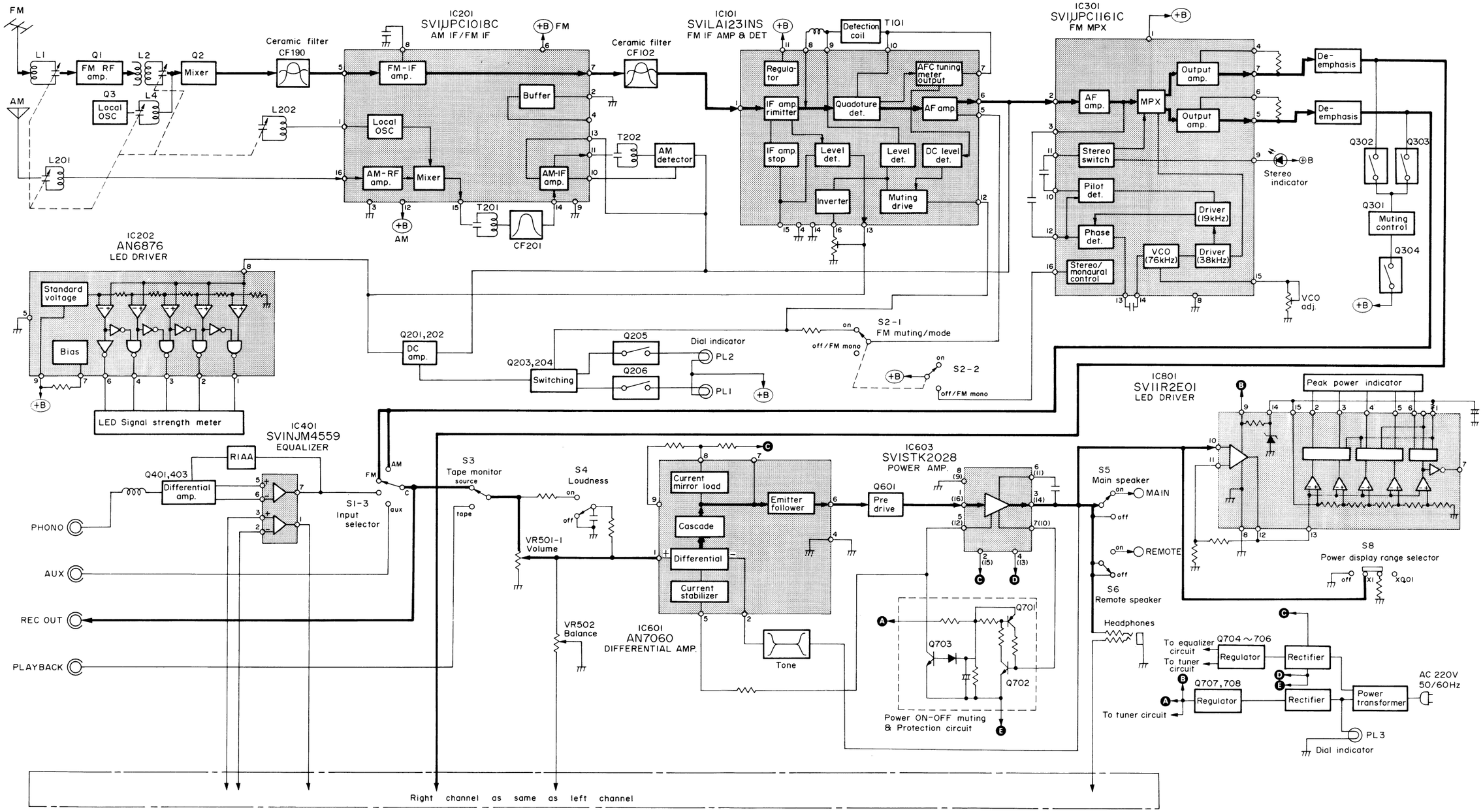
■ DIAL CORD INSTALLATION GUIDE

* For threading a fresh cord, proceed as follows.

1. Prepare a fresh cord more than 180cm (70-15/16") in length.
2. Bring the variable capacitor into a state where the drum is completely turned to the right (maximum capacity and lowest frequency for the variable capacitor.)
3. Direct the cord in the order from 1 to 7.
4. Stretch the cord in such a tension as the spring length is elongated by 1.5 times that of the original state.
5. Fix the knot of the cord with the adhesive.

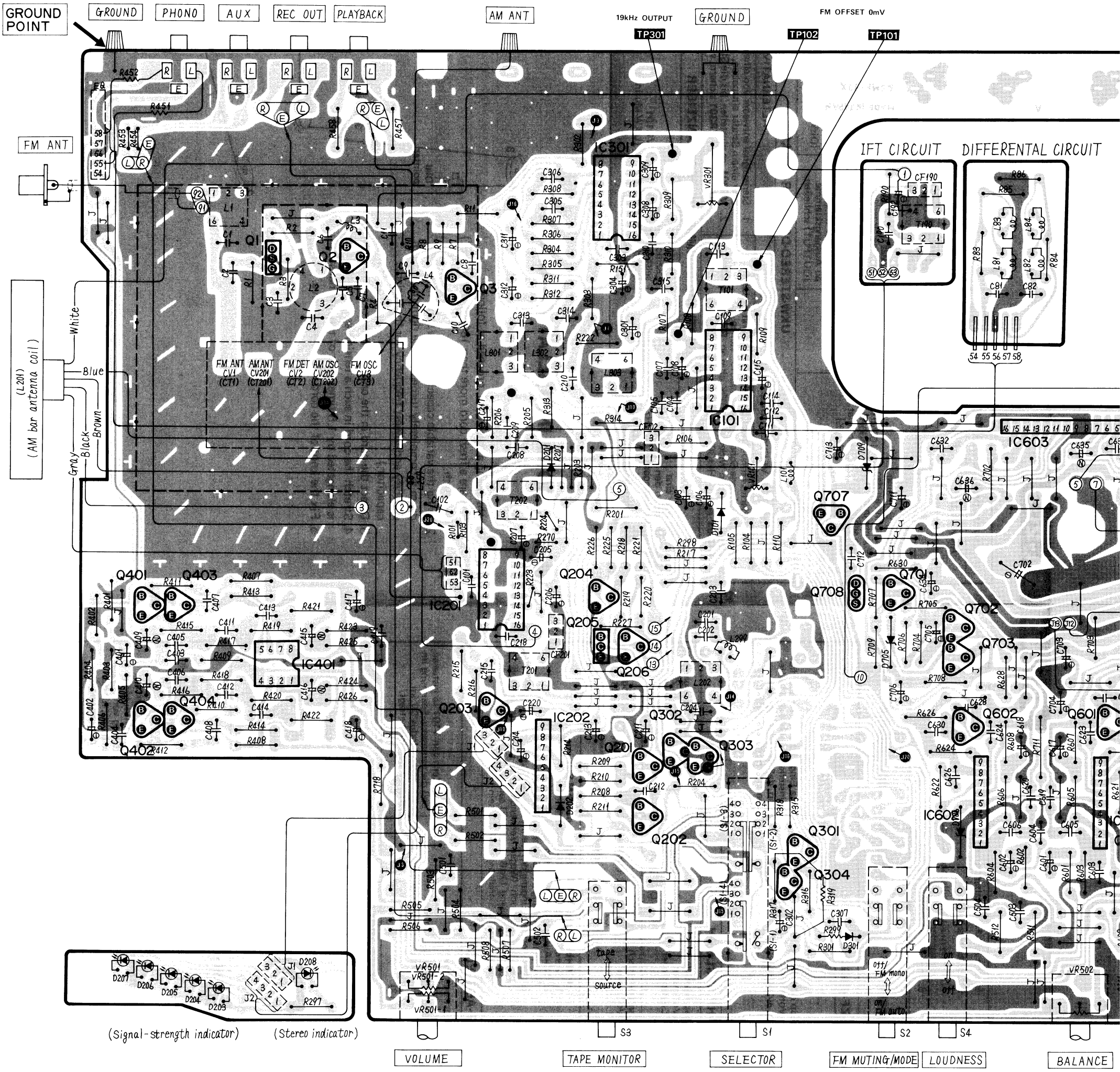


■ BLOCK DIAGRAM

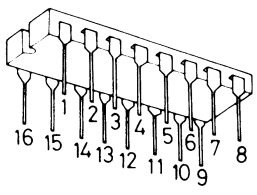
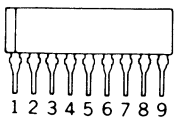
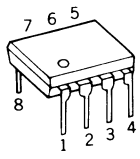
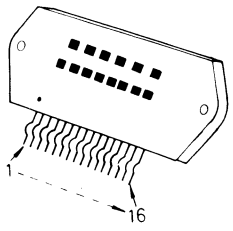
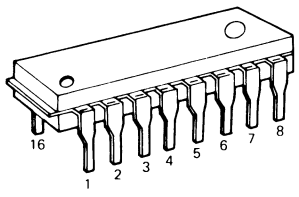
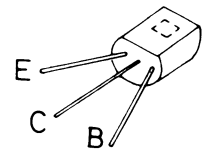


■ CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM

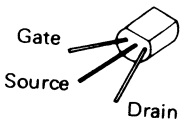
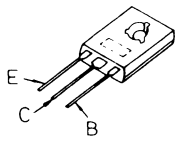
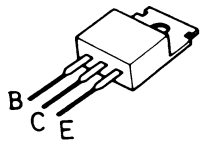
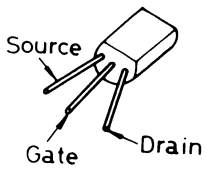
Ground (Earth) lines



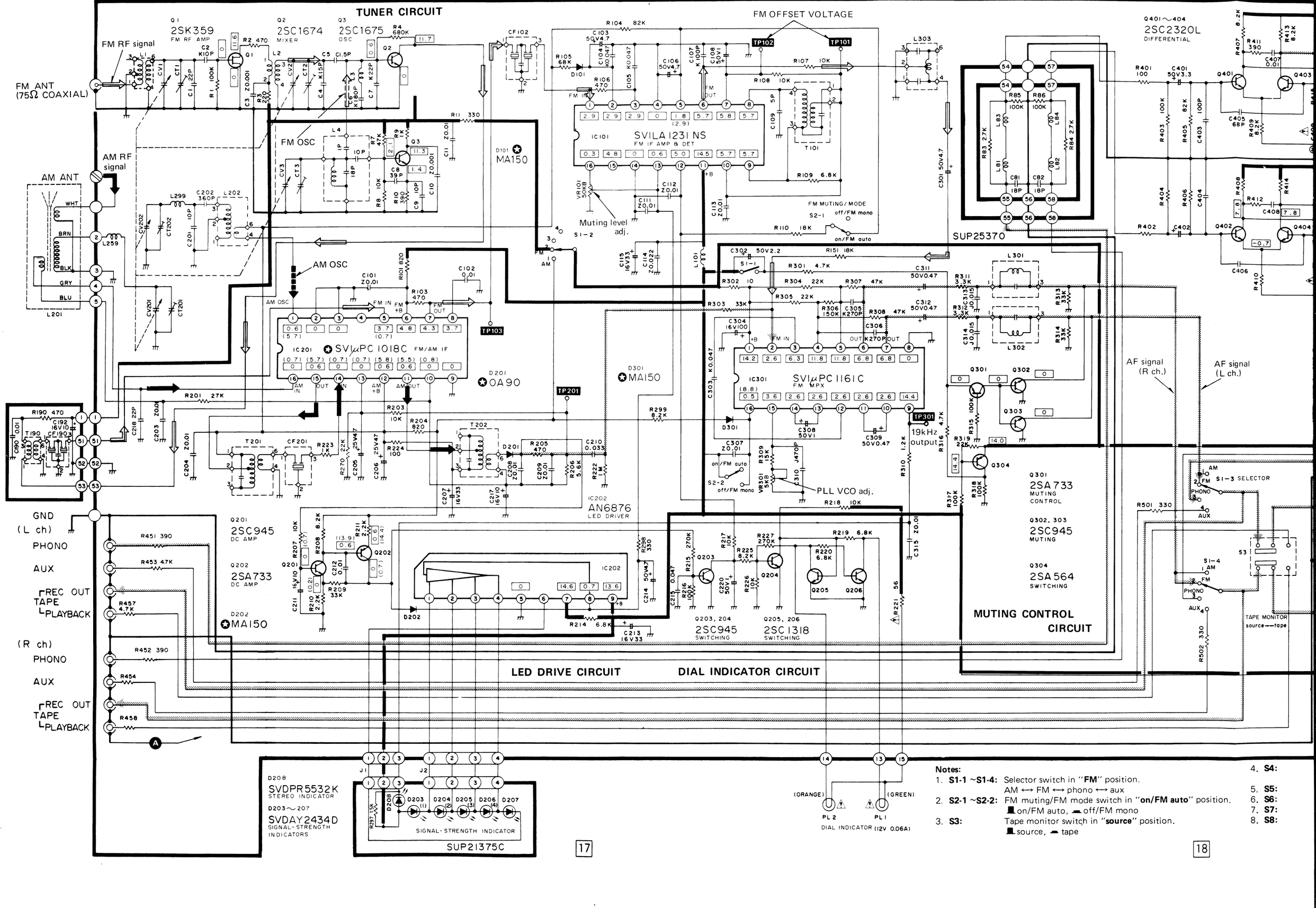
• Terminal guide of transistors & IC'S

SVILA1231NS, RVIμ PC1018CF SVIμ PC1161C	AN6876 AN7060F	SVINJM4559DD	SVISTK2028	SVIIR2E01	2SA722, 2SC1674, 2SC1675, 2SA564, 2SA733, 2SC945, 2SC1318, 2SC2320, 2SA992, 2SA1015, 2SC828, 2SA1123, 2SC1815	2S
						Gate Source

(Power Switch)
S7
C1001
Brown
Blue
Brown
2 N
A 1
4
3
6
5
F2 250V 1A
L751
Brown
L750
Blue
AC 220V
(50/60Hz)
Blue
Orange
(Power Transformer)
T701
Black
Orange
Orange
Yellow
DIFFERENTAL CIRCUIT
R86
R85
L83
L84
R83
L81
L82
R84
C81
C82
54 55 56 57 58
PL1
PL2
(Dial Point Indicator)
16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
IC603
C635
C637
C631
Z702
J
C710
D704
D703
D702
D701
D708
C1002
R719
Z701
C702
C701
Q702
Q703
Q602
Q601
IC601
Q704
Q705
Q706
F3 250V T630mA
(Dial Indicator)
12V 0.22A
PL3
(Peak power indicator)
D809 D807 D805 D803 D801
D810 D808 D806 D804 D802
IC801
IC802
S8
POWER DISPLAY-RANGE SELECTOR
PEAK POWER METER CIRCUIT
Black
Brown
(Pink)
(White)
(Pink)
(White)
Brown
Gray
SPEAKER TERMINAL CIRCUIT
(Pink)
(White)
(Shield)
(Shield)
(Pink)
(White)
R
L
SPEAKERS
MAIN
REMOTE
R636
R635
on
off
S6
(Remote)
S5
(main)
SPEAKERS
HEADPHONES
VR502
VR601
VR601-2
VR601-1
VR602
VR602-2
VR602-1
BALANCE
TREBLE
BASS

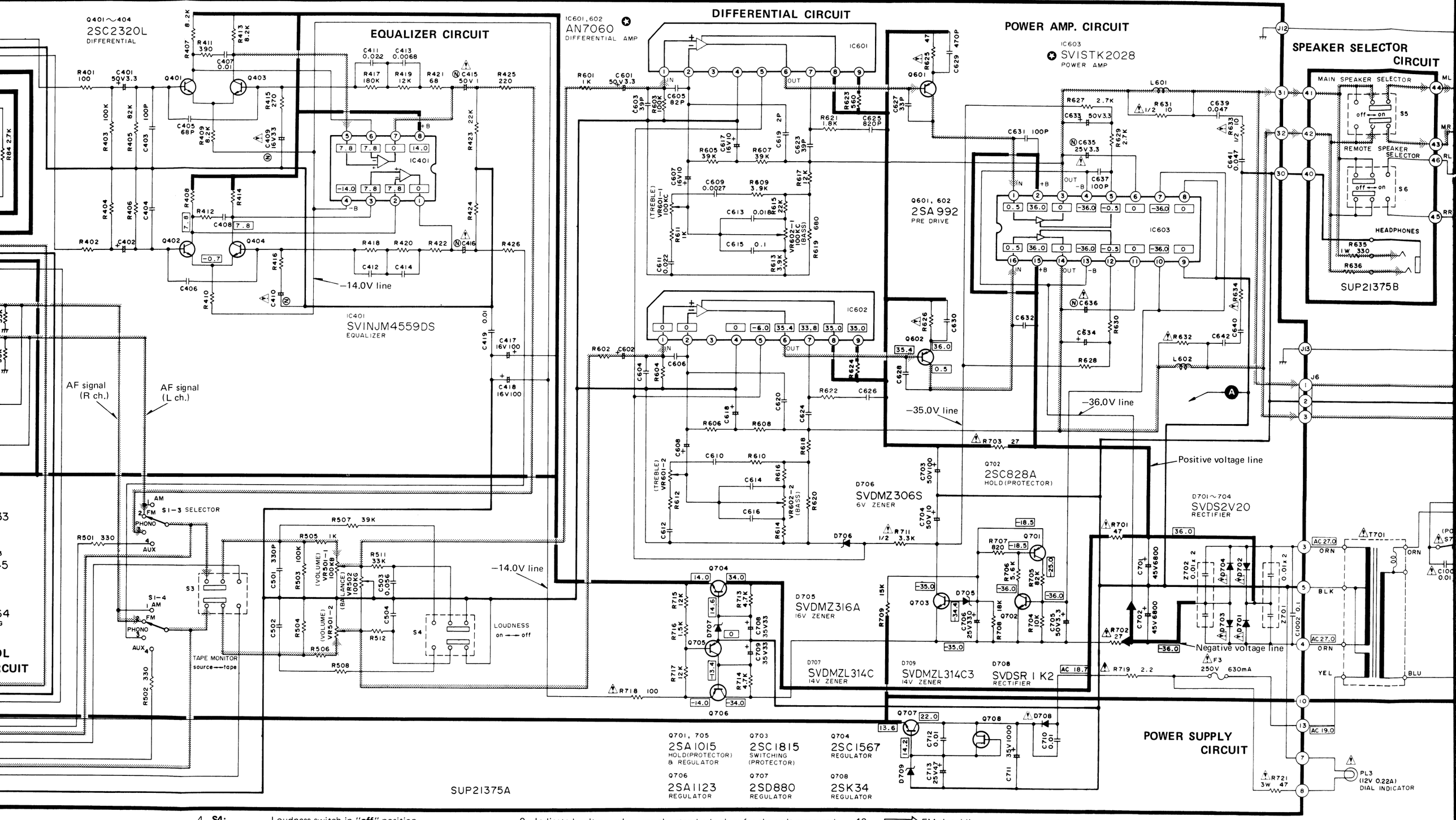
C1675, 2SA564, 1318, 2SC2320, C828, 2SA1123,	2SK359	2SC1567	2SD880	2SK34
				

TUNER CIRCUIT



Notes:

1. **S1-1 ~S1-4:** Selector switch in "**FM**" position.
   AM ⟷ FM ⟷ phono ⟷ aux
2. **S2-1 ~S2-2:** FM muting/FM mode switch in "**on/FM auto**" position.
   ▙on/FM auto, ▁off/FM mono
3. **S3:** Tape monitor switch in "**source**" position.
   ▙source, ▁tape
4. **S4:**
5. **S5:**
6. **S6:**
7. **S7:**
8. **S8:**



in "**FM**" position.
phono ⟷ aux
mode switch in "**on/FM auto**" position.
, ▂ off/FM mono
witch in "**source**" position.
ape

18

4. **S4:** Loudness switch in "**off**" position.
   ▙ off, ▂ on
5. **S5:** Main speaker selector switch in "**on**" position.
6. **S6:** Remote speaker selector switch in "**off**" position.
7. **S7:** Power source switch in "**on**" position.
8. **S8:** Power display range selector switch in "**X1**" position.
   off ⟷ x1 ⟷ x 0.01

9. Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard.
   Therefore, there may exist some errors in the voltge values, depending on the internal impedance of the DC circuit tester.
   * Figure in ▭ stand for DC voltage in FM signal reception mode.
   * Figures in ( ) stand for DC voltage in AM signal reception mode.

19

10. ⟹ FM signal lines ⋯⋯ AF signal lines
    ➡ AM signal lines ▬▬ Positive voltage lines
11. Important safety notice:
    Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

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■ SCHEMATIC DIAGRAM

(This schematic diagram may be modified at any time with the development of new technology.)

DIFFERENTIAL CIRCUIT

IC601, 602
AN7060
DIFFERENTIAL AMP

POWER AMP. CIRCUIT

IC603
SVISTK2028
POWER AMP

Q601, 602
2SA992
PRE DRIVE

SPEAKER SELECTOR CIRCUIT

SUP26130

MAIN SPEAKER SELECTOR

REMOTE SPEAKER SELECTOR

HEADPHONES

SUP21375B

L MAIN R SPEAKERS L REMOTE R

* The part No. of transitors, IC and diodes mentioned in the schematic diagram stand for production part No. Regarding the part No. with ✪ mark, the production part No. are different from the replacement part No. Therefore, when placing an order for replacement parts, please use the part No. in the replacement parts list.

POWER DISPLAY-RANGE SELECTOR

IC801
SVI 1 R2E 01
LEFT CHANNEL
LED DRIVER

IC802
SVI 1 R2E 01
RIGHT CHANNEL
LED DRIVER

PEAK POWER INDICATOR

D801~810
SVDAY5533K-1

SUP21510

PEAK-POWER INDICATOR CIRCUIT

−35.0V line

−36.0V line

−14.0V line

Positive voltage line

Negative voltage line

LOUDNESS on ⟷ off

D706
SVDMZ306S
6V ZENER

D705
SVDMZ316A
16V ZENER

D707
SVDMZL314C
14V ZENER

D709
SVDMZL314C3
14V ZENER

D708
SVDSR 1 K2
RECTIFIER

D701~704
SVDS2V20
RECTIFIER

Q702
2SC828A
HOLD(PROTECTOR)

Q701, 705
2SA1015
HOLD(PROTECTOR) & REGULATOR

Q703
2SC1815
SWITCHING (PROTECTOR)

Q704
2SC1567
REGULATOR

Q706
2SA1123
REGULATOR

Q707
2SD880
REGULATOR

Q708
2SK34
REGULATOR

POWER SUPPLY CIRCUIT

SUP22810E10

SUP25690

AC 220V (50/60Hz)

PL3
(12V 0.22A)
DIAL INDICATOR

9. Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard.
   Therefore, there may exist some errors in the voltge values, depending on the internal impedance of the DC circuit tester.
   * Figure in ▭ stand for DC voltage in FM signal reception mode.
   * Figures in ( ) stand for DC voltage in AM signal reception mode.

10. ⇨ FM signal lines ⋯⋯ AF signal lines
    ➡ AM signal lines ━━ Positive voltage lines

11. Important safety notice:
    Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

■ REPLACEMENT PARTS LIST (Electrical Parts)

Notes: 1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
2. Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components use only manufacturer's specified parts.
3. Bracketed indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.
4. The "**S**" mark is service standard parts and may differ from production parts.
5. Unless otherwise specified.
All resistors are in OHMS (Ω) K = 1000Ω , M = 1000kΩ
All capacitors are in MICROFARADS (μF) P = μμF

Ref. No.		Part No.	Description
INTEGRATED CIRCUITS			
IC101		SVILA1231NS	FMIF Amplifier
IC201		RVIUPC1018CF	AM Converter, FM IF Amplifier
IC202		AN6876	L.E.D. Amplifier
IC301		SVIUPC1161C3	FM Stereo Decoder (MPX)
IC401		SVINJ4559DDM	Equalizer Amplifier
IC601, 602		AN7060F	Differential Amplifier
IC603		SVISTK2028B	Power Amplifier
IC801, 802		SVIIR2E01	L.E.D. Driver
TRANSISTORS			
Q1		2SK359—D	FM. RF Amplifier
Q2			
Q2	S	2SC1674—M	FM. Mixer
Q3	S	2SC1675—L	FM Local Oscillator
Q201	S	2SC945—Q	DC Amplifier
Q202		2SA733—P1	DC Amplifier
Q203, 204	S	2SC945—Q	Switching
Q205, 206	S	2SC1318—Q	Switching
Q301		2SA733—P1	Muting Control
Q302, 303	S	2SC945—Q	Muting
Q304	S	2SA722—S	Switching
Q401～404		2SC2320L—F	Differential Amplifier
Q601, 602		2SA992	Pre Drive
Q701		2SA1015—Y	Hold
Q702	S	2SC828AQ	Hold
Q703		2SC1815—Y	Switching
Q704	S	2SC1567—Q	Regulator
Q705		2SA1015—Y	Regulator
Q706		2SA1123—R	Regulator
Q707		2SD880—Y	Regulator
Q708		2SK34—D1	Hold
DIODES			
D101, 202	S	MA162A	Switching
D201	S	2—OA99	AM Detector
D203～207		SVDAY2434D	L.E.D. Signal Strength (Yellow)
D208		SVDPR5532K	L.E.D. Stereo Indicator (Red)
D301	S	MA162A	Detector
D701～704	⚠	SVDS2V2O	Rectifier
D705		SVDMZ316A	16V. Zener
D706		SVDNZ306C	6V. Zener
D707		SVDMZL314C	14V. Zener
D708	S ⚠	SVDSR1K2	Rectifier
D709		SVDMZL314C3	14V. Zener
D801～810		SVDAY5533K-1	Peak Power Indicator
COILS			
L1		SLA4N15	FM Antenna
L2		SLD4P77—P	FM Detector
L3		ELQ5A77	Choke
L4		SLO4P107—P	FM Oscillator
L81～84		ELQS181KB	Choke
L101		SLQX101—3M	FM Discri
L201		SLF2C39	AM Antenna
L202		SLO2C1—P	AM Oscillator
L259		SLQZ10G1—D	Choke
L299		RLQY15G5—Y	Choke
L301, 302		SLM1C63—M	Choke
L303		SLM1C71—P	Choke
L601, 602		SLQY15G—30	Choke
L651～654		SLQY15G—10	Choke
L750, 751		SLQX400—D	Choke

Ref. No.		Part No.	Description
TRANSFORMERS			
T101		SLI4C527—Z	FM Detector
T190		SLI4C109	FM IFT
T201		SLI2C129R	AM IFT
T202		SLI2C413R	AM Oscillator
T701	⚠	SLT5M263—W	Power Source
COMPONENT COMBINATIONS			
Z701, 702		SXRFS203ZSM	0.01μF(X2)
CERAMIC FILTERS			
CF102		SVFT107MS2—A	10.7MHz, (Red)
		SVFT107MS2—B	10.675MHz, (Blue)
		SVFT107MS2—C	10.725MHz, (Orange)
		SVFT107MS2—D	10.650MHz, (Black)
		SVFT107MS2—E	10.750MHz, (White)
CF190		SVFE107MA8—A	10.7MHz. (Red)
		SVFE107MA8—B	10.68MHz. (Blue)
		SVFE107MA8—C	10.72MHz, (Orange)
		SVFE107MA8—D	10.66MHz, (Brown)
		SVFE107MA8—E	10.74MHz, (Gray)
		(Use pair ranks as same as CF102 and CF190)	
CF201		SVFSFU450B	AM, 450kHz
FUSES			
F2	⚠	XBA2C10TRO	250V. T1A
F3	⚠	XBA2C06TRO	250V. T630mA
LAMPS			
PL1	⚠	XAMR86S300A	Dial, 12V, 0.06A (Green)
PL2	⚠	XAMR86S300	Dial, 12V, 0.06A (Orange)
PL3	⚠	XAMR78S250A	Dial Indicator, 12V. 0.22A
SWITCHES			
S1-1～1-3		SSR165	Function
S2-1～2-2, 4		SSH2015	FM Muting, Loudness and Speaker Selector
S3		SSH165	Tape Monitor
S5, 6		SSH2017	Speaker Selector
S7	⚠	ESB90619S	Power Source
S8		SSS53	Range Selector
VARIABLE RESISTORS			
VR101	S	EVNM4AA00B54	Muting Level Adjustment, 50kΩ (B)
VR301	S	EVTS3MA00B53	PLL Voltage Adjustment, 5kΩ (B)
VR501		EWJGFA066B15	Volume Control, 100kΩ (B)
VR502		EWHHMA531G15	Balance Control, 100kΩ (G)
VR601		EWJFC0066C15	Treble Control, 100kΩ (C)
VR602		EWJFCY066530	Bass Control
VARIABLE CAPACITOR			
CV1, 2, 3, 201, 202 (CT1, 2, 3, 201, 202)		ECV5MD34X71G	Tuning Gang, FM & AM (with Trimmer)

Numbering System of Resistor

Example

ERD	25	F	J	101
Type	Wattage	Shape	Tolerance	Value

Resistor Type	Wattage	Tolerance
ERD : Carbon ERG : Metal Oxide	25 : 1/4W 50 : 1/2W 1 : 1W 3 : 3W	J : ± 5%

Numbering System of Capacitor

Example

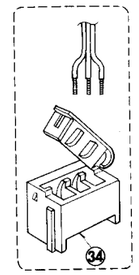
ECKD	1H	102	Z	F	Peculiarity
Type	Voltage	Value	Tolerance	Peculiarity	
ECEA	50	M	R47	R	Special use
Type	Voltage	Peculiarity use	Value	Special use	

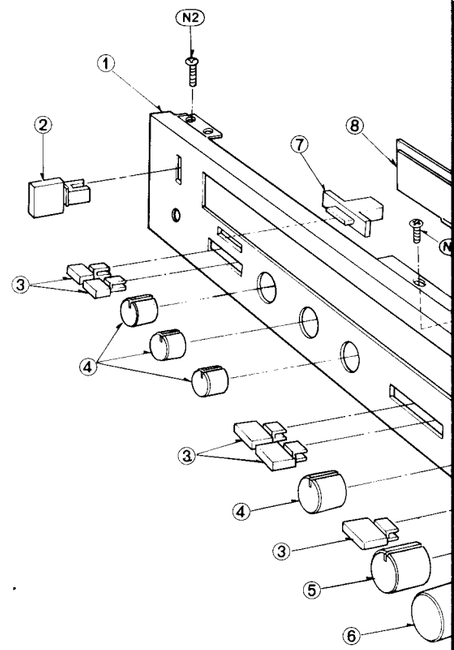
Capacitor Type	Voltage		Tolerance
	ECEA Type	Others	
ECEA : Electrolytic	1A : 10V	1H : 50V DC	C : ± 0.25pF
ECEA...N : Non Polar Electrolytic	1C : 16V	4S : 45V DC	J : ± 5%
ECCD : Ceramic	1E : 25V	KC : 400V AC	K : ± 10%
ECKD : Ceramic	1H : 50V		M : ± 20%
ECQM : Polyester	50 : 50V		Z : +80%, −20%
ECET : Electrolytic	1V : 35V		P : +100%, −0%
ECQP : Polypropylene			

Ref. No.		Part No.	Value
RESISTORS			
R1	S	ERD25TJ104	100K
R2	S	ERD25FJ471	470
R3	S	ERD25FJ221	220
R4	S	ERD25TJ684	680K
R7	S	ERD25TJ473	47K
R8	S	ERD25FJ103	10K
R9	S	ERD25FJ102	1K
R10	S	ERD25FJ391	390
R11	S	ERD25FJ331	330
R83, 84	S	ERD25FJ272	2.7K
R85, 86	S	ERD25TJ104	100K
R101	S	ERD25FJ821	820
R103	S	ERD25FJ471	470
R104	S	ERD25TJ823	82K
R105	S	ERD25TJ683	68K
R106	S	ERD25FJ471	470
R107	S	ERD25FJ103	10K
R108	S	ERD25FJ103	10K
R109	S	ERD25FJ682	6.8K
R110	S	ERD25TJ183	18K
R151	S	ERD25TJ183	18K
R190	S	ERD25FJ471	470
R201	S	ERD25TJ273	27K
R203	S	ERD25FJ103	10K
R204	S	ERD25FJ821	820
R205	S	ERD25FJ471	470
R206	S	ERD25FJ562	5.6K
R207	S	ERD25FJ103	10K
R208	S	ERD25FJ822	8.2K
R209	S	ERD25TJ333	33K
R210	S	ERD25FJ222	2.2K
R211	S	ERD25FJ222	2.2K
R214	S	ERD25FJ682	6.8K
R215	S	ERD25TJ274	270K
R216	S	ERD25TJ104	100K
R217, 218	S	ERD25FJ103	10K
R219, 220	S	ERD25FJ682	6.8K
R221	⚠S	ERD25FJ560	56
R222	S	ERD25TJ105	1M
R223	S	ERD25FJ102	1K
R224	S	ERD25FJ101	100
R225	S	ERD25FJ822	8.2K
R226	S	ERD25FJ103	10K
R227	S	ERD25TJ274	270K
R270	S	ERD25TJ223	22K
R297	S	ERD25FJ152	1.5K
R298	S	ERD25FJ331	330
R299	S	ERD25FJ822	8.2K
R301	S	ERD25FJ472	4.7K
R302	S	ERD25FJ100	10
R303	S	ERD25TJ333	33K
R304, 305	S	ERD25TJ223	22K
R306	S	ERD25TJ154	150K
R307, 308	S	ERD25TJ473	47K
R309	S	ERD25TJ153	15K
R310	S	ERD25FJ122	1.2K
R311, 312	S	ERD25FJ332	3.3K
R313, 314	S	ERD25TJ333	33K
R315	S	ERD25TJ104	100K
R316	S	ERD25FJ472	4.7K
R317, 318	S	ERD25TJ104	100K
R319	S	ERD25TJ223	22K
R401, 402	S	ERD25FJ101	100
R403, 404	S	ERD25TJ104	100K
R405, 406	S	ERD25TJ823	82K
R407, 408	S	ERD25FJ822	8.2K
R409, 410	S	ERD25FJ822	8.2K
R411, 412	S	ERD25FJ391	390
R413, 414	S	ERD25FJ822	8.2K
R415, 416	S	ERD25FJ271	270
R417, 418	S	ERD25TJ184	180K
R419, 420	S	ERD25TJ123	12K
R421, 422	S	ERD25FJ680	68
R423, 424	S	ERD25TJ223	22K
R425, 426	S	ERD25FJ221	220
R451, 452	S	ERD25FJ391	390
R453, 454	S	ERD25FJ472	4.7K
R457, 458	S	ERD25FJ472	4.7K
R501, 502	S	ERD25FJ331	330
R503, 504	S	ERD25TJ104	100K
R505, 506	S	ERD25FJ102	1K
R507, 508	S	ERD25TJ393	39K
R511, 512	S	ERD25TJ333	33K
R601, 602	S	ERD25FJ102	1K
R603, 604	S	ERD25TJ104	100K
R605, 606	S	ERD25TJ393	39K
R607, 608	S	ERD25TJ393	39K
R609, 610	S	ERD25FJ392	3.9K
R611, 612	S	ERD25FJ102	1K
R613, 614	S	ERD25FJ392	3.9K
R615, 616	S	ERD25TJ223	22K
R617, 618	S	ERD25TJ123	12K
R619, 620	S	ERD25FJ681	680
R621, 622	S	ERD25FJ182	1.8K
R623, 624	S	ERD25FJ561	560
R625, 626	⚠S	ERD25FJ470	47
R627, 628	S	ERD25FJ272	2.7K
R629, 630	S	ERD25FJ272	2.7K
R631, 632	⚠S	ERD50FJ100	10
R633, 634	⚠S	ERD50FJ100	10
R635, 636	S	ERG1ANJ331	330
R701	⚠S	ERD25FJ470	47
R702, 703	⚠S	ERD25FJ270	27
R704	S	ERD25FJ103	10K
R705	S	ERD25TJ823	82K
R706	S	ERD25FJ562	5.6K
R707	S	ERD25FJ821	820
R708	S	ERD25TJ183	18K
R709	S	ERD25TJ153	15K
R711	⚠S	ERD50FJ332	3.3K
R713, 714	S	ERD25FJ472	4.7K
R715	S	ERD25TJ123	12K
R716	S	ERD25FJ152	1.5K
R717	S	ERD25TJ123	12K
R718	⚠S	ERD25FJ101	100
R719	⚠	ERD25FAJ2R2	2.2
R721	⚠S	ERG3ANJ470	47
R801, 802	S	ERD25FJ103	10K
R803, 804	S	ERD25FJ821	820
R805, 806	S	ERD25FJ820	82
R807, 808	S	ERD25FJ102	1K
R809, 810	S	ERD25FJ103	10K
R811, 812	S	ERD25FJ472	4.7K

Ref. No.		Part No.	Value
CAPACITORS			
C1	S	ECCD1H220KC	22P
C2	S	ECCD1H100K	10P
C3	S	ECKD1H102ZF	0.001
C4	S	ECCD1H150KC	15P
C5	S	ECCD1H1R5CC	1.5
C6	S	ECCD1H181K	180P
C7	S	ECCD1H220K	22P
C8	S	ECCD1H390KC	39P
C9	S	ECCD1H100KC	10P
C10	S	ECKD1H102ZF	0.001
C11	S	ECKD1H103ZF	0.01
C81, 82	S	ECCD1H180KC	18P
C101	S	ECKD1H103ZF	0.01
C102	S	ECKD1H103ZF	0.01
C103	S	ECEA50Z4R7	4.7
C104, 105	S	ECQM1H473JZ	0.047
C106	S	ECEA50Z4R7	4.7
C107	S	ECCD1H101K	100P
C108	S	ECEA50Z1	1
C109	S	ECCD1H050CC	5P
C111	S	ECKD1H103ZF	0.01
C112, 113	S	ECKD1H103ZF	0.01
C114	S	ECKD1H223ZF	0.022
C115	S	ECEA1CS330	33
C190	S	ECKD1H103ZF	0.01
C192	S	ECEA1CS100	10
C201	S	ECCD1H100KC	10P
C202		ECQP1361JZ	360P
C203, 204	S	ECKD1H103ZF	0.01
C205	S	ECEA1ES470	47
C206	S	ECEA1ES470	47
C207	S	ECEA1CS330	33
C208, 209	S	ECKD1H103ZF	0.01
C210	S	ECQM1H333JZ	0.033
C211	S	ECEA1HS100	10
C212	S	ECKD1H103ZF	0.01
C213	S	ECEA1CS330	33
C214	S	ECEA50Z4R7	4.7
C215	S	ECQM1H473JZ	0.047
C217	S	ECEA1CS100	10
C218	S	ECCD1H220K	22P
C220	S	ECEA50Z1	1
C301	S	ECEA50Z4R7	4.7
C302	S	ECEA50Z2R2	2.2
C303	S	ECQM1H473JZ	0.047
C304	S	ECEA1ES101	100
C305, 306	S	ECKD1H271KB	270P
C307	S	ECKD1H103ZF	0.01
C308	S	ECEA50Z1	1
C309	S	ECEA50ZR47	0.47
C310		ECQP1471JZ	470P
C311, 312	S	ECEA50ZR47	0.47
C313, 314	S	ECQM1H153JZ	0.015
C315	S	ECKD1H103ZF	0.01
C401, 402	S	ECEA50M3R3R	3.3
C403, 404	S	ECCD1H101K	100P
C405, 406	S	ECCD1H680K	68P
C407, 408	S	ECKD1H103MD	0.01
C409, 410	⚠	ECEA1CN330S	33
C411, 412	S	ECQM1H223JZ	0.022
C413, 414	S	ECQM1H682JZ	0.0068
C415, 416	⚠	ECEA1HN010S	1
C417, 418	S	ECEA1ES101	100
C419	S	ECKD1H103ZF	0.01
C501, 502	S	ECKD1H331KB	330P
C503, 504	S	ECQM1H563JZ	0.056
C601, 602	S	ECEA50M3R3R	3.3
C603, 604	S	ECCD1H390KC	39P
C605, 606	S	ECCD1H820KC	82P
C607, 608	S	ECEA1HS100	10
C609, 610	S	ECQM1H272JZ	0.0027
C611, 612	S	ECQM1H223JZ	0.022
C613, 614	S	ECQM1H183JZ	0.018
C615, 616	S	ECQM1H104JZ	0.1
C617, 618	S	ECEA1HS100	10
C619, 620	S	ECCD1H020CC	2P
C623, 624	S	ECCD1H390KC	39P
C625, 626	S	ECKD1H821KB	820P
C627, 628	S	ECCD1H330KC	33P
C629, 630	S	ECKD1H471KB	470P
C631, 632		ECCD1H101K	100P
C633, 634		ECEA50Z3R3	3.3
C635, 636	⚠	ECEA1EN3R3S	3.3
C637	S	ECCD1H101K	100P
C639, 640	S	ECQM1H473JZ	0.047
C641, 642	S	ECQM1H473JZ	0.047
C651, 652	S	ECKD1H103ZF	0.01
C653, 654	S	ECKD1H103ZF	0.01
C655, 656	S	ECKD1H103ZF	0.01
C657, 658	S	ECKD1H103ZF	0.01
C701, 702		ECETS45V682U	6800
C703	S	ECEA1HS101	100
C704	S	ECEA1HS100	10
C705	S	ECEA50Z3R3	3.3
C706	S	ECEA1ES331	330
C708, 709	S	ECEA1VS330	33
C710	S	ECKD1H103ZF	0.01
C711	S	ECEA1VS102	1000
C712	S	ECKD1H103ZF	0.01
C713	S	ECEA1ES470	47
C801, 802	S	ECEA50Z4R7	4.7
C803, 804	S	ECEA50Z4R7	4.7
C805	S	ECEA1ES101	100
C807, 808	S	ECEA1AS470	47
C1001	⚠	ECKDKC103PF	0.01
C1002	⚠	ECQE1104KN	0.1

■ EXPLODED VIE

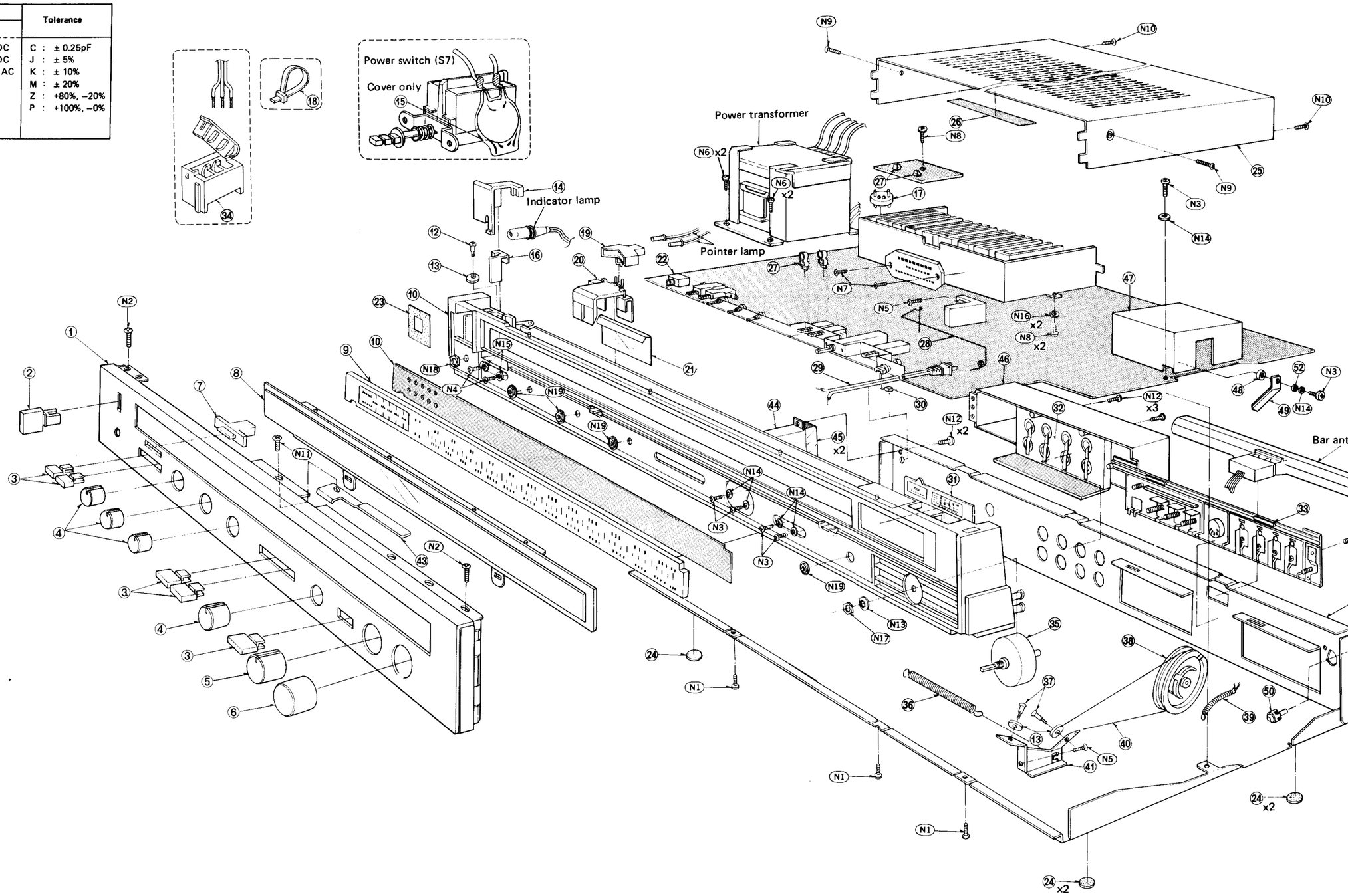




■ EXPLODED VIEW

age	
Others	
1H : 50V DC	
45 : 45V DC	
KC : 400V AC	

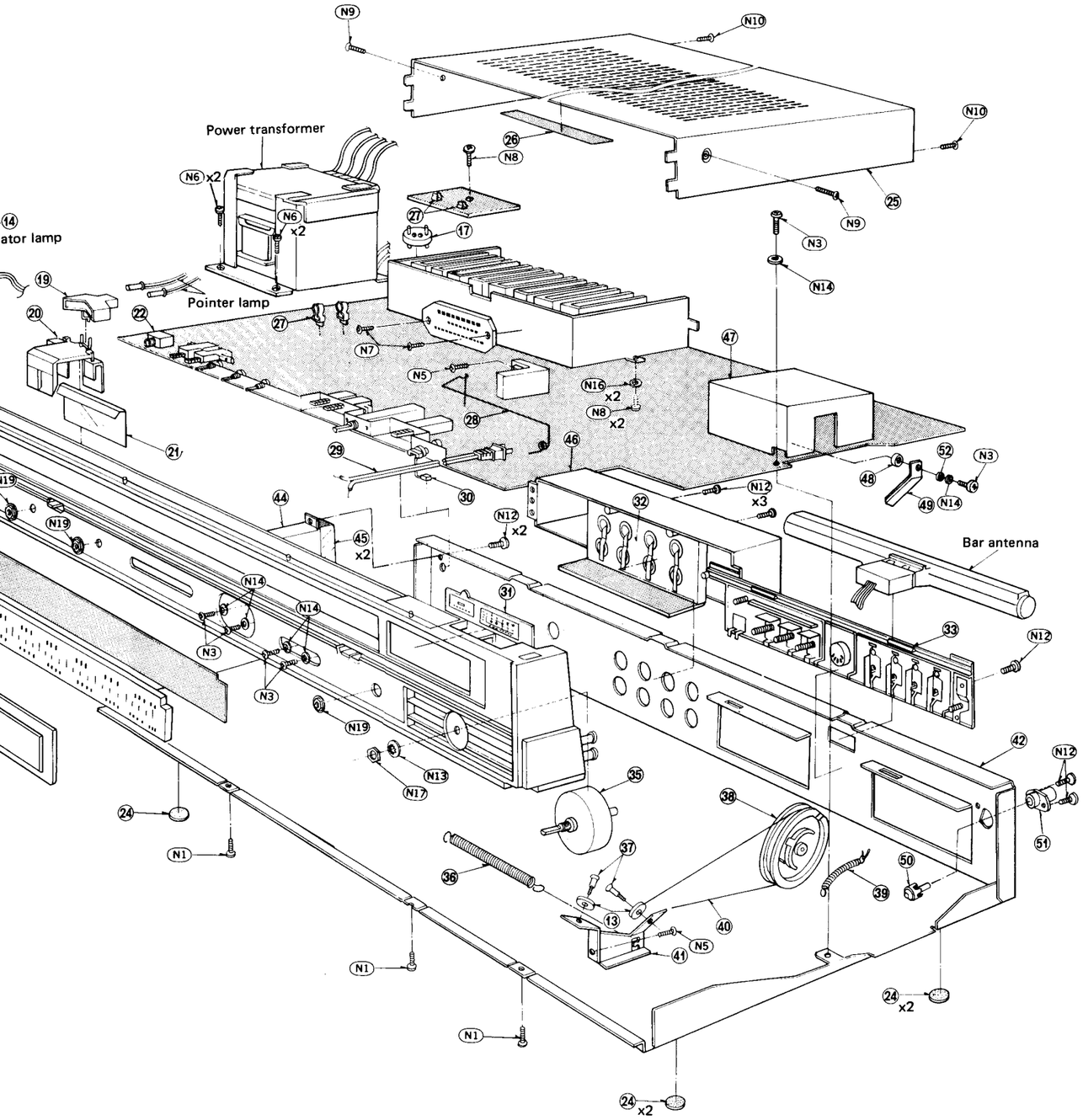
Tolerance
C : ± 0.25pF
J : ± 5%
K : ± 10%
M : ± 20%
Z : +80%, −20%
P : +100%, −0%



■ REPLACEMENT

Notes: 1. Part numbers are
Please use this pa
2. Important safety
Components ide
characteristics in
When replacing
manufacturer's s
3. Ⓚ -marked p
○-marked parts

Ref. No.		Part No.	Descr
CABINET and CHASSIS PARTS			
1	○	SYW405	Panel, Fro
1	Ⓚ	SYW405−10	Panel, Fro
2		SBC301−5	Knob, Po
3		SBC369−2	Knob, Spe Loudnes Tape
4		SBN1019	Knob, Ba Balance
5		SBN1049	Knob, Vo
6		SBN1051	Knob, Tu
7	○	SBD35	Knob, Ra
7	Ⓚ	SBD35−1	Knob, Ra
8		SGU215−1	Panel, Tra
9	○	SKD4090−4	Scale, Dia (Silver T
9	Ⓚ	SKD4090−5	Scale, Dia (Black
10		SGX7047−1	Plate, Dia
11	○	SUF305	Panel, Fro (Silver T
11	Ⓚ	SUF305−2	Panel, Fro (Black
12		SHD3X27	Shaft, Dia
13	S	RDR8−1	Pulley, Dia
14		SHR9557	Holder, D
15		SMXA65	Cover, Li
16		SHG1589	Rubber, D
17		SHE113	Clamper,
18		SHR301	Clamper,
19		SHG1587	Rubber, F
20		SDP5083	Pointer, D
21		SHP53−3	Slider, Po
22		XCJ6P21B−A1	Jack, He
23		SHS1045	Fiber, Po
24		SKL245	Foot, Set
25	○	SKC751S1	Cabinet (
25	Ⓚ	SKC751B1	Cabinet (
26		SHS1009	Fiber, Ca
27		SJT347	Clip, Fus
28		SUS233	Spring
29	S ⚠	SJA88	AC Cord, Source
30		SHR127	Bushing,
31	○	SGX7045−1	Plate, L.B (Silver T



■ REPLACEMENT PARTS LIST (Cabinet and Chassis Parts)

Notes:
1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
2. Important safety notice: Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. ■ -marked parts are used for black only, while ○ -marked parts are for silver type only.
4. Parts other than ■ - and ○-marked are used for both black and silver types.
5. Bracketed indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.
6. The "**S**" mark is service standard parts and may differ from production parts.
7. The parenthesized numbers in the column of description stand for the quantity pre set.

Black type model No. : SA-203 (K)

Ref. No.		Part No.	Description & Pcs
CABINET and CHASSIS PARTS			
1	○	SYW405	Panel, Front (Silver) (1)
1	■	SYW405—10	Panel, Front (Black) (1)
2		SBC301—5	Knob, Power (1)
3		SBC369—2	Knob, Speaker Selector, Loudness Muting, Tape (5)
4		SBN1019	Knob, Bass, Treble, Balance & Selector (4)
5		SBN1049	Knob, Volume (1)
6		SBN1051	Knob, Tuning (1)
7	○	SBD35	Knob, Range (Silver) (1)
7	■	SBD35—1	Knob, Range (Black) (1)
8		SGU215—1	Panel, Transparent (1)
9	○	SKD4090—4	Scale, Dial (Silver Type) (1)
9	■	SKD4090—5	Scale, Dial (Black Type) (1)
10		SGX7047—1	Plate, Dial (1)
11	○	SUF305	Panel, Front Plate (Silver Type) (1)
11	■	SUF305—2	Panel, Front Plate (Black Type) (1)
12		SHD3X27	Shaft, Dial Pulley (1)
13	S	RDR8—1	Pulley, Dial (3)
14		SHR9557	Holder, Dial Scale (1)
15		SMXA65	Cover, Line Capacitor (1)
16		SHG1589	Rubber, Dial Holder (1)
17		SHE113	Clamper, P.C.B (1)
18		SHR301	Clamper, Pointer (4)
19		SHG1587	Rubber, Pointer (1)
20		SDP5083	Pointer, Dial (1)
21		SHP53—3	Slider, Pointer (1)
22		XCJ6P21B—A1	Jack, Headphones (1)
23		SHS1045	Fiber, Power Switch (1)
24		SKL245	Foot, Set (4)
25	○	SKC751S1	Cabinet (Silver) (1)
25	■	SKC751B1	Cabinet (Black) (1)
26		SHS1009	Fiber, Cabinet (1)
27		SJT347	Clip, Fuse (4)
28		SUS233	Spring (1)
29	S ⚠	SJA88	AC Cord, Power Source (1)
30		SHR127	Bushing, AC Cord (1)
31	○	SGX7045—1	Plate, L.E.D (Silver Type) (1)

Ref. No.		Part No.	Description & Pcs
31	■	SGX7045—2	Plate, L.E.D (Black Type) (1)
32		SJF4813—1	Terminal Board, Speaker (1)
33		SJF8033—4N	Terminal Board, Input & Antenna (1)
34		SJS5327	Socket, 3P (1)
35		SDT8081	Shaft, Tuning (1)
36		SUS175	Spring, Dial Pointer (1)
37		SHD3X1F—1	Dial Pulley (2)
38		SDD38—1	Drum, Variable Capacitor (1)
39		SDSA4121	Spring, Drum (1)
40		SDZ051—2	Cord, Dial (1.8m)
41		SUW1769	Bracket, Dial (1)
42		SGPA203EGA	Rear Panel (1)
43		SUW1829	Bracket, Transparent Panel (1)
44		SMC1015	Shield Cover (1)
45		SMX681	Insulation Plate (2)
46		SMC1033	Bracket, Terminal Board (1)
47		SMC1019	Shield Cover (1)
48		SMX461	Spacer (1)
49		SUW1813	Bracket (1)
50		RJP5	Plug (1)
51		SJS9105	Socket (1)
52		SHW42N50	Spacer (1)
SCREWS			
N1	S	XTB3+8BFZ	Tapping, ⊕3×8 (3)
N2	S	XTB3+10BFZ	Tapping, ⊕3×10 (2)
N3	S	XSN3+8S	⊕3×8 (6)
N4	S	XSN26+5BN	⊕2.6×5 (2)
N5	S	XTB3+8BFN	Tapping, ⊕3×8 (2)
N6	S	XTB4+8BFN	Tapping, ⊕4×8 (4)
N7	S	XTB3+14BFN	Tapping, ⊕3×14 (2)
N8	S	XTN3+8B	Tapping, ⊕3×8 (2)
N9	S ○	XTB4+8BFN	Tapping, ⊕4×8 (Silver) (2)
N9	S ■	XTB4+8BFZ	Tapping, ⊕4×8 (Black) (2)
N10	S ○	XTB3+8BFN	Tapping, ⊕3×8 (Silver) (2)
N10	S ■	XTB3+8BFZ	Tapping, ⊕3×8 (Black) (2)
N11	S	XSS3+4S	⊕3×4 (1)
N12		XTBS3+8BFZ1	Tapping With Detent, ⊕3×8 (8)
WASHERS			
N13	S	XWD11B	External Toothed Locked, ϕ 11 (1)

Ref. No.		Part No.	Description & Pcs
N14	S	XWA3B	Spring, ϕ 3 (5)
N15	S	XWA26B	Spring, ϕ 2.6 (2)
N16	S	XWG3	Plain, ϕ 3 (2)
NUTS			
N17	S	XNS11	ϕ 11 (1)
N18	S	XNS12	ϕ 12 (1)
N19		SNE4021	(4)
ACCESSORIES			
A1		SSA901	Cord, Antenna (1)
A2		SQF11471	Instruction Book (1)
PACKING PARTS			
P1		SPP649	Polyethylene Bag (1)
P2		SPS3069—4	Pad, Left Side (1)
P3		SPS3071—4	Pad, Right Side (1)
P4		SPG4177	Carton Box (1)
P5		SGK1411	Lavel (Silver only) (2)

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